

REMARKS

Claims 1-2, 4-8, and 10-21 are pending in the present Application with claims 11-18 and 20-21 having been withdrawn, claim 3 having earlier been canceled, and claim 9 being canceled by the current amendment. Claim 1 has been amended to better define the invention. Support for this amendment can be found in claim 9 as originally filed, for example. Claim 6 has been amended to remove the subject matter that is now already present in claim 1. Claims 1-2, 4-10, and 19 are presently under review. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claims 1-2, 4-8 and 19 were rejected under 35 USC 102(b) as being unpatentable over Twigg US3723108; claims 1-2, 4-8, 10, and 19 were rejected under 35 USC 103(a) as being unpatentable over Twigg US3723108; and Claim 9 was rejected under 35 USC 103(a) as being unpatentable over Twigg and the ASM Specialty Handbook (ASM). For clarity, please note that claim 9 was inadvertently referenced as claim 8 at the bottom of page 7 of the Office action, but subject matter of Tungsten is related to claim 9 and not 8.

As stated above, Applicant has amended claim 1 to include the subject matter of canceled claim 9 and will discuss the Twigg and ASM references herein.

Amended claim 1 recites a nickel-containing alloy comprising: about 1.5 to about 4.5 weight percent aluminum; about 1.5 to about 4.5 weight percent titanium; about 0.8 to about 3 weight percent niobium; about 14 to about 28 weight percent chromium; up to about 0.2 weight percent zirconium; about 1 to about 3 weight percent tungsten; and nickel, wherein the atomic ratio of aluminum to titanium is about 0.5 to about 1.5, with the proviso that the nickel-containing alloy is substantially devoid of tantalum.

Applicant agrees that, as indicated in the Office Action, Twigg does not specify that the nickel-containing alloy would comprise tungsten. Applicant respectfully traverses, however, the following Office Action Paragraphs from pages 7 and 8:

The ASM Specialty Handbook discloses that molybdenum and tungsten would both perform the function of improving high temperature strength and creep strength of nickel-base alloys (pg. 167).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute a corresponding amount of tungsten for molybdenum, as disclosed by the ASM Specialty Handbook, in the nickel-containing alloy, as disclosed by Twigg et al. ('108), because molybdenum and tungsten would be functionally equivalent in improving high temperature strength and creep strength, as disclosed by the ASM Specialty Handbook. See MPEP 2144.06.

Applicant has read the citation regarding substitution and pasted it below for ease of reference.

2144.06 Art Recognized Equivalence for the Same Purpose

SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE

In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. However, an applicant's expressed recognition of an art-recognized or obvious equivalent may be used to refute an argument that such equivalency does not exist.); *In re Scott*, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963) (Claims were drawn to a hollow fiberglass shaft for archery and a process for the production thereof where the shaft differed from the prior art in the use of a paper tube as the core of the shaft as compared with the light wood or hardened foamed resin core of the prior art. The Board found the claimed invention would have been obvious, reasoning that the prior art foam core is the functional and mechanical equivalent of the claimed paper core. The court reversed, holding that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another, and in this case, the use of a light wood or hardened foam resin core does not fairly suggest the use of a paper core.); *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (The mere fact that phthalocyanine and selenium function as equivalent photoconductors in the claimed environment was not sufficient to establish that one would have been obvious over the other. However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.).

An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

ASM includes a Table 1 with elements and the elements' "Effects on [nickel- or iron-base alloy.]"

Molybdenum, tungsten	Improves high-temperature strength, good in reducing chlorination resistance; improves creep strength; detrimental for oxidation resistance at higher temperatures
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The page on which this table is located (the only page supplied by the Office to Applicant) mentions a number of other elements and effects which these elements provide.

Applicant respectfully submits that, even though two materials may offer certain benefits as indicated in the table, this does not make them "functionally equivalent" such that it would be obvious to replace one with a "corresponding amount" of the other. Even the cited MPEP says indicates that equivalence must be more than "functional."

Accordingly, Applicant respectfully submits that the claim 1, as well as claims 2, 4-8, 10, and 19 which depend therefrom, define allowable subject matter over the applied art. Withdrawal of the rejections is respectfully requested, and allowance of the claims is respectfully solicited.

Should the Examiner believe that anything further is needed to place the application in better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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December 18, 2007